



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,355	09/24/2001	Kyoji Yamashita	213222US2TTCRD	6964
22850	7590	09/30/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			MILLER, CRAIG S	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/960,355

Applicant(s)

YAMASHITA, KYOJI

Examiner

Craig Miller

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. The drawings are objected to because figure 2 includes required unlabeled blocks.
2. Claim 21 is rejected under 35 USC 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim.
4. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

*A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

*Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.*

5. Claims 1-20 are rejected under 35 U.S.C. 103 as being unpatentable over Garza *et al.* (6,081,659) in view of Sekiya *et al.* (6,718,072 B1) and Schietinger *et al.* (5,769,540).

As to claims 1-3, 6-13 and 15-20, Garza *et al.* discloses a defect inspection apparatus obtaining complex reflection data [212] and comparing said data to a design standard [218]. Garza *et al.* specifies neither that the reflection data should be expanded using surrounding image data or that the resulting comparison data should be FIR (Finite Impulse Response) filtered. Sekiya *et al.* discloses that image data should be expanded to improve image quality (abstract) and that a FIR filter will improve image quality (col. 2 lines 45+). Schietinger *et al.* discloses that FIR filtering reduces undesirable effects from complex imaging illumination reflections (middle of col. 10). Because the devices of Garza *et al.*, Sekiya *et al.* and Schietinger *et al.* are all within the art of image analysis and because Sekiya *et al.* and Schietinger *et al.* suggest that FIR filters are useful for improving image quality within such analysis, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to include within the device of Garza *et al.* such image data expansion and FIR filtering as suggested by Sekiya *et al.* and Schietinger *et al.* so as to receive the expected benefits derived there from such as enhanced image quality absent a showing of unexpected results or synergistic results from any particular claimed combination.

As to claim 5, said claim is directed towards removing extraneous data deemed not of interest before performing data comparison. The device of Garza *et al.* as modified above discloses filtering unwanted data before comparison. Garza *et al.* also states (starting at the bottom of col. 8 through col. 9) that the system includes a feedback process, “...to produce a modified simulator that results in less discrepancy or error between the aerial image produced during a successive iteration of the simulator and the actual image produced by the pattern.” The Examiner notes that it is known that circuit dies commonly comprise multiple layers. Therefore because the device of Garza *et al.* suggests ensuring a comparison between design and actual patterns and because it is known that dies commonly include multiple layers, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include within the device of Garza *et al.* removing those items not of interest such as overlapping areas so as to receive the expected benefits derived there from such as enhanced image comparison quality absent a showing of unexpected results or synergistic results from any particular claimed combination.

More particularly with respect to claims 4 and 14, said claims are directed towards the applying of the conjugate to a data distribution during a FIR filter. As evidenced in column 20 (lines 49+) of Resnikoff *et al.* (5,101,446), such conjugate application is deemed inherent within some well known FIR filtering.

6. The prior art made of record but not relied upon is deemed pertinent to applicant's disclosure.

Pierce (4,783,660) discloses the use of FIR filtering to remove multi-source interference.  
Resnikoff *et al.* (5,101,446) discloses comparing a circuit mask to a circuit design.  
Greenberg *et al.* (6,072,897) discloses comparing a circuit die to a design database.  
Chang *et al.* (6,757,645 B2) discloses comparing circuit simulation to physical circuit.

Serial No. 09/960,355  
Tech. Center 2857

-4-

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Craig Steven Miller whose telephone number is (571) 272-2219. Central facsimile services are now available at (703) 872-9306.

The Examiner can normally be reached on Mondays through Thursdays from 6:40am-2:10pm EDT. Should repeated attempts to reach the Examiner be unsuccessful, the Examiner's Supervisor, Marc Hoff may be reached at (571) 272-2216.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2800.

Craig Steven Miller (ss)  
22 September 2004

